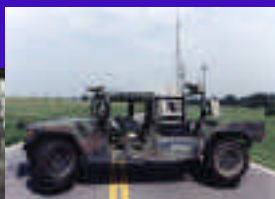
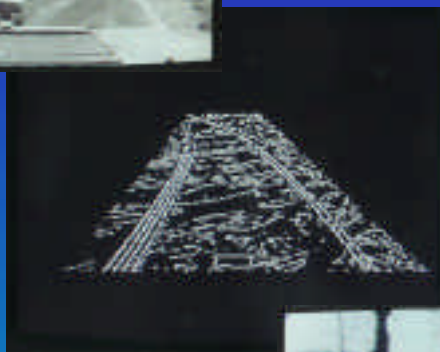


# Intelligent Vehicles

*DOD/DOT Testbed*



Raw Image



Extracted Edges



Road Model

*Industrial Autonomous Vehicle Testbed*



## Vision Based Driving

- Autonomous Vehicle Drives 55 MPH
  - Video Camera on the Windshield
  - Motors Attached to the Steering Wheel, Brake, and Throttle
  - Dashboard Sensors and Navigation Sensors (Inertial and GPS)
- The System Detects and Tracks the Painted Stripes
  - First Extract Edges in the Video Image
  - Update Two Quadratic Curves that Represent Each Lane Boundary
  - The Curves are the Best Fit to the Edges Caused by the Stripes
  - The Algorithm Filters Out the Edges Caused by Shadows, etc.
- This Work Supports
  - Department of Transportation Intelligent Vehicle Highway System
  - Department of Defense Robotic Testbed Program
  - NIST Intelligent Machine
- This Technology Transfers to Industry
  - Automated Guided Vehicles
  - Mobile Robots
  - Service Robots